

# NESTING SUCCESS OF THE OSPREY ON ROTTNEST ISLAND, WESTERN AUSTRALIA

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Ospreys (*Pandion haliaetus*) are known to have nested at seven locations on or near Rottneest Island. Old nests are located on the gallery of Bathurst Point lighthouse (Serventy & Whittell, 1962), on a rock promontory at the east end of Wilson Bay, and on a mushroom-shaped rock islet or "stack" offshore from Lady Edeline Beach. Campbell (1901) recorded a pair of Ospreys nesting on Dyers (Seal) Island which is about half a mile south of Rottneest Island. Since 1961 only three breeding pairs have been present on Rottneest Island. Their nesting sites are located on stacks at the west end of Salmon Bay, at Salmon Point, and at the west end of Ricey Beach on Crayfish Rock. The nest at Crayfish Rock is the largest, being almost 3 ft. high. On the stack in Salmon Bay the nest was, in 1963, less than a foot high. At Salmon Point the nest consisted of a few sticks and a bit of seaweed on a rock platform in 1961, but by 1963 it was almost six inches high.

The six adults which reside permanently on Rottneest Island stay near their nests only between July and January. Fresh material is usually added to the nests in July, but territorial defence does not start until mid-August. Although the Ospreys keep most Silver Gulls (*Larus novae-hollandiae*) from the islet, one gull usually succeeds in nesting close to each Osprey nest. The nesting gull appears to regard the whole islet as a territory and threatens all other gulls but not the Osprey. The Osprey in turn does not threaten the gull occupying its islet. On Crayfish Rocks two or three gulls occupied the point farthest from the Osprey nest but on the other two stacks the gulls nested within 15 feet of the Osprey nest.

The recorded times of egg laying, hatching and leaving the nest are shown in Table I. In 1961, 1962 and 1963 each pair laid three eggs but, with one exception, never more than two young were fledged. From the 27 eggs laid, at least 20 hatched (74%). Four infertile eggs were recovered from the nests. The pair at Salmon Point laid an infertile egg each year; the fourth infertile egg came from the Salmon Bay nest in 1963. If the incubation period is 36 or 37 days, the infertile egg in the Salmon Bay nest was the first one laid. Since some of the infertile eggs remained in the nests as long as a month after the other eggs in the nest hatched, it seems most likely that the three eggs which could not be accounted for hatched and the chicks died.

Over the three years, 1961 to 1963, fifteen young were raised successfully from the 27 eggs laid (55.5%). The most complete record was obtained on the nest in Salmon Bay. Usually the eggs hatched three to five days apart, and in 1961 and 1962 the last

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TABLE 1.—RECORDED DATES OF EGG-LAYING, HATCHING AND LEAVING THE NEST SITE

Location	Year	Date of egg-laying	Date of hatching	Number hatched	Number fledged	Date of leaving Nest Area
Salmon Bay	1961	No data	Sept. 30-Oct. 2	3	2	by Dec. 5
	1962	Sept. 24-28	Oct. 26-Nov. 1	3	0	(All dead by Nov. 10)
	1963	Sept. 22, 25, 27	Nov. 1, 3	2 (1 infert.)	2	by Dec. 25
Salmon Point	1961	No data	Sept. 30-Oct. 2	2 (1 infert.)	2	by Dec. 5
	1962	by Sept. 6	No data	2 (1 infert.)	1	No data
	1963	by Sept. 30	No data	2 (1 infert.)	2	by Dec. 20
Crayfish Rock	1961	No data	Sept. 10?	2	2	by Dec. 5
	1962	by Sept. 6	No data	No data	1	No data
	1963	No data	No data	3	3	by Dec. 15

hatched chick was the first to die. The loss of all the young at Salmon Bay in 1962 possibly resulted from food shortage caused by several days of very rough seas just after the chicks hatched. That year the smallest chick died on November 3, on November 9 the middle-sized one died and on November 10 the largest chick died.

Completion of the clutch during September appears to be the rule on Rottnest island. Le Souef (1902) recorded on November 15 a fully-fledged osprey in a nest on Penguin Island. Further north, the nesting season appears to be earlier. On the Abrolhos Islands, Gibson (1908) observed many nests about November 9, 1907, and noted that they all had young in the nest, or the young had just left, which indicates that they breed slightly earlier there than on Rottnest. Still further north, at North-West Cape, Carter (1903) made extensive observations on Ospreys and observed eggs between June 25 and September 3.

The young remain in the nest for about 50 days. Once they learn to fly they stay round the nest for only a few days before moving to other parts of the island.

Ten fledglings were banded; six in 1961, two in 1962, two in 1963. One bird banded on November 2, 1962, was found dead on November 2, 1963, at Laneclin about 7 miles north of Rottnest Island. A second young bird banded on November 2 was shot 240 miles south-east of Rottnest Island at Wilson Inlet, Denmark, W.A., on March 19, 1964; 4½ months after it was banded. The third, banded in November 1962, was found dead on July 20, 1963, about 50 miles N.E. of Albany, its condition suggesting it had died about a month previously.

From these limited observations it appears that the young birds disperse widely both north and south from Rottnest Island.

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## SOCIAL BEHAVIOUR IN THE BANDED BLUE WREN, *MALURUS SPLENDENS*

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Some years ago Mr. A. H. Robinson of Coolup, well known for his work on the Western Magpie (*Gymnorhina dorsalis*), suggested that Blue Wrens may have similar social habits to those he discovered in the Magpie—that is, occupying and defending territory in groups, rather than in pairs as is the rule with most birds. Mr. Rob-